



State of Utah

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DIVISION OF OIL, GAS AND MINING

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CHRONOLOGY DISCLAIMER

This file chronology does not reflect the Division of Oil, Gas and Mining's official position regarding this mine operation. This chronology is not intended to replace an actual review of the files. This chronology is intended to provide the reader with a condensed permit history and assist in the location of documents of interest without having to review the actual files. This chronology has been prepared and revised by several authors, each of which, made a subjective decision on which information from the file documents would be included or omitted from the chronology.

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MINE FILE CHRONOLOGY

5-M, INCORPORATED SILVER REEF SITE - M/053/002

(last revised February 2, 1995)

- Legal Description: Patented and unpatented claims - Sections 6 & 7, R41S, R13W and Sections 1, 11, 12, 13, 14, T41S, R14W.
- April 13, 1978 Original Mining & Reclamation Plan Application (MR-1) received from 5-M, Inc. for a new mine and mill at Silver Reef site. Meeting held at DOGM offices with operator. Supplemental maps, topographic information, etc. requested from the operator. Information to be provided within a week by 5-M.
- April 17, 1978 DOGM receives letter from 5-M, Inc. attorney, Mr. Walter Plumb. Follow-up to April 13th meeting. Indicated operator would rely upon statutory exemption (DOE) to continue operations until MRP is approved.
- May 19, 1978 Memo to File (Brian Buck). Area of operation intricately laced with accumulated disturbances of 100 + years mining. Regional area disturbances include >100 portals and shafts, numerous small open pits, 5 mills and many drill holes.
- 5-M controls most of the district (Still?). @ 1300 acres originally proposed for bonding. Proposing to strip mine and heap leach silver and copper ores. Silver and copper ores found in White Reef and Buckeye Reef.
- 5-M intending to apply for permit from NRC to mine and heap leach uranium/vanadium ore also. Uranium ore principally located: Pumpkin Point, Paulmer Hill and Tecumseh Hill. Some portals proposed for bottom of some proposed open pits. Underground development also contemplated.
- Two (2) principal complications identified by DOGM: 1) immediately north of the proposed minesite is a developing residential area; and 2) a culinary water well exists just downstream from the leach pond area (5-M is attempting to purchase same).
- May 25, 1978 Letter from concerned citizens in Leeds area.
- Objections and Concerns:
- (1) Destruction of White Reef and historic areas.
 - (2) Mining-related impacts to adjacent residential area.
 - (3) Drop in local Silver Reef resident property values.
 - (4) Old mining ruins, mills, mines, artifacts and Indian ruins are and will continue to be destroyed.
 - (5) 2 old cemeteries in area need preservation.
 - (6) Esthetic and public safety concerns.

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June 20, 1978	DOGM receives letter from SHPO, requesting that a cultural resource survey be conducted.
July 6, 1978	DOGM notifies 5-M of SHPO's <u>recommendation</u> , but doesn't <u>require</u> a survey of operator.
July 19, 1978	Public Notice of Tentative Approval sent to Newspaper Agency by DOGM for proposed operation. Involved permitting of @ 1352 acres.
August 31, 1978	Formal protest from Bennett Petroleum Corporation to the tentative approval decision. Objection based upon challenge to legal ownership of mineral and surface rights (unpatented mining claims & private surface).
September 8, 1978	DOGM letter to Bennett Petroleum Corporation addressing their formal protest concerns.
September 12, 1978	Letter from 5-M indicating enclosure of a map with revised bonding area for @60 acres of disturbance.
October 2, 1978	Amended Protest received by DOGM from Bennett Petroleum Corporation.
October 4, 1978	DOGM letter to Bennett Petroleum in response to their amended protest, establishing November 19, 1978 as date for Board hearing to hear their formal protest.
November 16, 1978	DOGM publishes formal notice for a November 29th Board hearing in response to receipt of Formal Protest from Bennett Petroleum Corp.
November 30, 1978	DOGM letter reaffirming tentative approval decision and forwarding reclamation surety estimate of \$291,720 for 60 disturbed acres and a 30-year bond period.
December 18, 1978	5-M letter responding to DOGM Nov. 30th letter. Operations to concentrate on underground development initially. Revised area of projected mining from 60 to 75 acres. Operator proposed only \$250/acre for the 75 acre mine disturbance.
December 26, 1978	DOGM letter to 5-M indicating Board request for more information regarding: (1) Now proposing only 12 acres of 75 acres to be bonded for reclamation? Where would the 12 acres of 75 acres be located? (2) Inflation rate must be accounted for in bond calculations.
February 2, 1979	5-M responds to December 26, 1978 DOGM letter.
February 8, 1979	Memo to file (Ron Daniels). Followed office meeting between DOGM and 5-M, discussions on bonding. Agreement reached, 5-M to pursue bonding of \$84,375 (1979 dollars) at \$1,125/acre for 75 acres. Inflation to be added to this figure.

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February 13, 1979	Letter from 5-M's attorney transmitting two (2) revised maps, "Amended Mining Program, Underground, Room and Pillar, Minimal Open Pit, Open Cut, Drawing #22." Involves 75 acres, including open cut areas A, B & C. 5-M to pursue surety bonding at \$1,125/acre cost. If this fails, then an escrow surety will be pursued.
February 22, 1979	5-M letter transmits a "Bond Map" to be used during February 28th Board hearing. (75 acres proposed). Board accepted the \$1,125/acre bond figure at the hearing.
January 11, 1980	5-M transmittal letter for 1979 Annual Progress Report. Indicates 40,000 tons ore placed on asphalt leach pad. Undergoing processing.
*NOTE:	NO BOND POSTED YET, OR FINAL APPROVAL INDICATED IN FILE TO COMMENCE MINING OPERATIONS.
January 22, 1980	Registered DOGM letter to 5-M regarding failure to post \$84,375 reclamation surety. Request immediate response, no mining activity permitted prior to posting of surety.
September 2, 1981	DOGM memo to file (Gil Hunt), based on August 19, 1981 field inspection. Company currently in process of negotiations for financial support. Operation is temporarily suspended. Solutions in process ponds to be processed upon reactivation. Most old shafts fenced, but some remain open. Work to date concerns removal, reprocessing and cleanup of old refuse ore stockpiles (no active mining of new ore yet?).
September 16, 1983	Registered DOGM letter to 5-M as a follow-up to an August 4, 1983 field inspection by technical staff. Noted active operations during inspection. Letter gave 30 days to post outstanding reclamation surety of \$84,375.
October 31, 1983	Registered DOGM letter to 5-M final request for reclamation surety to be received by December 2, 1983. Failure to meet deadline will result in issuance of an Order to Show Cause to revoke tentative approval.
November 7, 1983	Letter from 5-M attorney, stating client's ongoing objection to excessive bond amount and some doubts as to whether Mined Land Reclamation Act is within constitutional limits on regulating client's use of its own private patented mining claims. Propose a "reclaim-as-you-go" reclamation option, with only 10 acres of surface disturbance subject to open pit mining at any one time. Propose a "Trust Deed" form of surety to the State on valuable real estate properties. (20 acres to be deeded over). Also stated current disturbance was within 2 acre exemption category and therefore, not subject to State bonding requirements.
January 23, 1984	DOGM memo to file (Tom Tetting), follows a January 20th field inspection detailing amount of onsite disturbance associated with the operations conducted to date. Visual estimate of 12-15 acres made by technical staff. Recommend operator be brought before Board.

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February 14, 1984

DOGM memo to file (Mary Boucek), follows a February 7, 1984 meeting between 5-M and DOGM to discuss lack of reclamation bond. Operator was advised that no further mining activity would be allowed to occur until a surety is posted with DOGM. Operator may post a surety for the currently disturbed acreage, plus any additional acreage to be disturbed within the permit term on a "reclaim-as-you-go" basis. Operator agreed to revise the MR-1 form to reflect current operations, delineate disturbed acreage and estimate the appropriate bond amount within 30 days for DOGM review.

February 29, 1984

DOGM memo to file (Mary Boucek), regarding February 22, 1984 phone call from Jerry Glazier (5-M, Inc.). Requested delay in submission of revised MR-1 form. 5-M in process of negotiating a joint-venture which would have an effect on plan development. Will submit map of disturbed areas and a revised bond estimate within the 30-day time frame. Management OK'd same with additional requirement to provide a date for submission of revised MR-1.

March 12, 1984

5-M response letter received. Contained current map of all surface developments 5-M had completed to date. A \$55,210 bond estimate for 42.25 acres also included.

March 21, 1984

DOGM memo to file (Pam Grubaugh-Littig), review of 5-M reclamation estimate. OK'd for 1984 dollars. A 10% inflation factor was added to yield: \$60,731 (1985), \$66,804 (1987), and \$73,485 (1987 dollars).

March 22, 1984

DOGM letter to 5-M accepting reclamation estimate and requiring immediate posting of \$55,210. Present surety would need to be escalated to cover inflationary cost for the next year or 3-year period.

May 1, 1984

DOGM memo to file (Steve Cox), regarding an onsite April 26, 1984 inspection to confirm cessation of operations.

May 1, 1984

Registered letter sent to 5-M giving operator until May 15, 1984 to post reclamation surety. Otherwise, an Order to Show Cause to be issued requiring bond posting and immediate reclamation of minesite.

May 15, 1984

A bond form and rules sent to Leavitt Insurance Agency representing 5-M, Inc.

May 15, 1984

DOGM sends letter to 5-M as a follow-up to a phone conversation which gave extension of surety deadline until May 30, 1984.

June 5, 1984

Memo to DOGM Director, discusses 5-M's failure to post the required reclamation surety and recommendation to issue an Order to Show Cause.

June 14, 1984

Memo to file (Pam Grubaugh-Littig), presents a revised 75-acre reclamation surety estimate based on 5-M's previous (\$1306/acre) calculations for 42.25 acres. Revised 75 acre estimate equals \$98,006 (1984 dollars).

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July 11, 1984	Formal petition filed by DOGM Assistant Attorney General and directed to the Board of Oil, Gas and Mining against 5-M for failure to post reclamation surety. Scheduled for August 23, 1984 hearing date.
August 23, 1984	Board Hearing. A September continuance sought by DOGM attorney on behalf of 5-M petition, due to recent circumstances regarding 5-M joint-venture with Kerley Mining Company.
August 23, 1984	Registered letter sent to Valley National Bank of Arizona notifying them of Irrevocable Assignment of Certificate of Deposit (CD).
August 24, 1984	A \$55,210 Irrevocable Certificate of Deposit sent from DOGM to State Treasurer's Office for safekeeping (submitted by Kerley Industries).
August 24, 1984	Copy of signed Irrevocable Agreement between DOGM and Kerley Industries sent to Kerley.
August 29, 1984	Exploration NOI application received (EXP/053/007) from Kerley Mine and Mill Engineering, Inc. for a 12 hole drilling program.
September 17, 1984	Memo from DOGM to Assistant Attorney General regarding relief request for Kerley Industries from petition filed against 5-M Inc. Bond posted by Kerley assumes all leases and properties from 5-M. Suggest March 1, 1985, deadline for submission of a new MRP prior to allowing any further mining-related activities.
October 3, 1984	Kerley Mine and Mill Engineering, Inc. submits an amended exploration notice for an additional 15 holes.
October 24, 1984	Letter to Johnson & Higgins of Arizona with a copy of the Mined Land Reclamation Act Bond Form, MR-5. (Operator may replace Certificate of Deposit with a bond).
October 26, 1984	File memo (Pam Grubaugh-Littig) regarding call to Valley National Bank of Arizona, CD is automatically renewable. Bank stated Kerley is interested in another form of surety (Money Market Certificate). Pam will contact Kerley to inform them the CD is OK, as MMC is unacceptable as surety.
October 31, 1984	DOGM letter to Valley National Bank of Arizona authorizing them to transfer CD (renewable every 60-days) to a new CD for the same amount being renewable every 7-days. Old CD will be released when new CD received by DOGM.
January 7, 1985	File memo (Pam Grubaugh-Littig) regarding call to Valley National Bank of Arizona. CD is unchanged (still 60-day).
January 8, 1985	DOGM letter to 5-M requesting completion of Annual Operations and Progress Report (MR-5) and return it by 3/31/85.

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January 11, 1985	DOGM received MR-9 forms for 26 holes (plugged). Form indicates all holes intercepted water 5-10 gpm at 100-130 ft. depth. No indication that any reclamation work performed.
April 19, 1985	DOGM forwards copy of the Act, regulations and MR-1 form to Kerley Industries. Immediate update of current development plans for the Silver Reef Property requested.
May 29, 1985	Staff memo to management regarding a May 23, 1985, field inspection of exploration program, performed in response to a citizen's complaint. Complaint concerned lack of adequate cleanup and reclamation of the exploration drill sites conducted by Kerley Industries (Mine and Mill Engineering, Inc.). Memo confirms need for some additional reclamation work.
June 12, 1985	DOGM certified letter sent to Kerley Industries requiring operator to complete required reclamation work, or address the discrepancy between DOGM field inspection and Kerley Industries MR-9 Completion Notice.
June 21, 1985	DOGM receives letter and <u>incomplete</u> MR-1 form from Kerley Industries. It contained supplemental information to the MRP previously submitted by 5-M. Operator indicated it was <u>not</u> a <u>final</u> NOI to commence mining operations. Complete NOI to be filed pending completion of intensive exploratory drilling on the property. Several new maps provided and supplemental text to describe current state of operations, small scale development and proposed reclamation plans.
July 19, 1985	Kerley Industries (Mine & Mill Engineering, Inc.) Exploration NOI received for 1985 drilling program. Proposal requests approval of 79 new drill holes.
July 26, 1985	DOGM letter to Mine and Mill Engineering, Inc. Exploration application determined incomplete. Request more detailed information and a response to DOGM June 12th letter before application is approved.
August 21, 1985	Memo to exploration file regarding August 19, 1985 onsite field inspection of Mine & Mill Engineering, Inc. completed 1984 exploration program and the proposed 1985 drilling program. Operator committed to perform limited regrading and reseeding work on specific areas identified by DOGM staff during inspection.
September 3, 1985	DOGM receives revised exploration map showing new locations for the proposed 1985 (75 hole) drilling program.
September 27, 1985	DOGM letter sent to Kerley Industries requesting increase in reclamation bond to provide for reclamation costs in 1986 dollars (\$59,474).
January 6, 1986	DOGM receives letter from Kerley Industries that they have terminated all interest in Silver Reef properties owned by 5-M Inc. 1985 drilling program was <u>not</u> conducted. No annual report submitted for 1985.

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NOTE*

Not known if operator ever completed the exploration reclamation work as committed to during the Division's August 19, 1985 onsite inspection?

January 6, 1986

File memo (Pam Grubaugh-Littig) regarding status of CD. She called Valley National Bank of Arizona - No change in CD, it is still 60-day renewable for \$55,210.

January 15, 1986

DOGM letter sent to Kerley Industries transmitting surety bond form to replace existing Certificate of Deposit. Request inflated bond to reflect reclamation costs in 1987 dollars (\$61,728).

February 10, 1986

Kerley Industries acknowledges receipt of surety bond form. Company expects to have the current audited financial statement for enclosure to DOGM by end of April. Request existing CD remain in place until then.

March 2, 1986

Article published in Deseret News concerning potential public health and safety problems and environmental consequences associated with "abandoned" Silver Reef mining operation.

March 12, 1986

Memo from technical staff to DOGM management concerning current status and recommendations for action against Kerley Industries and/or 5-M, Inc. for failure to comply with DOGM directives regarding completion of permitting requirements for Silver Reef Mine.

NOTE*

Page 2 of the March 12, 1986 memo incorrectly states Kerley Industries did not respond to the request for an updated MR-1 be submitted. On June 21, 1985, DOGM received an MR-1 form which was incomplete and unsigned. No documentation of DOGM review of the form or a response to Kerley Industries was found.

March 26, 1986

Letter to 5-M from Utah Water Pollution Control regarding pond and conditions at mine site. Requesting 5-M submit documentation of proof of review or approval, or submit plans and design specs by April 15, 1986.

April 3, 1986

DOGM memo to file regarding February 7, 1986 field inspection of Silver Reef Mine. Water quality samples were taken by DOGM from the solution ponds. Grab samples also taken upstream and downstream of the processing site disturbance. Lab analysis of primary solution pond indicated the following concentrated values: Aluminum (275,000 ppm), Cadmium (3400 ppb), Copper (524,000 ppm), Manganese (233,700 ppm), Mercury (376 ppb), Silver (125,000 ppm) and Zinc (333,500 ppm). Lab analysis from the stream samples indicated elevated dissolved salts downstream from the upstream sample, but reduced metals concentrations. A 10 to 20 fold increase in estimated stream flow was noted at the downstream site over the upstream estimate (5 gpm vs. 50-100 gpm).

June 12, 1986

DOGM letter to Kerley Industries requesting immediate posting of escalated bond by July 1, 1986, and a written explanation of future plans for development of the Silver Reef Mine.

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July 23, 1986	Staff memo to DOGM Associate Director detailing specifics behind unpermitted Silver Reef Mine and recommendation for issuance of an Order to Show Cause requiring full and complete reclamation.
August 5, 1986	Memorandum from Assistant Attorney General to DOGM Associate Director recommending that the operator be provided with the opportunity to request a hearing before the Board. If no hearing is requested, DOGM may refuse, withhold, or withdraw tentative approval of the Notice of Intention.
September 18, 1986	DOGM certified letter to Kerley Industries giving responsible parties 60 days, from receipt of letter, to reclaim the Silver Reef Mine site. If no reclamation conducted, DOGM will approach Board, requesting bond forfeiture and reclamation by the State of Utah.
September 30, 1986	DOGM transmits file correspondence and the Mined Land Reclamation Act to Kerley Industries legal counsel as per their request.
November 6, 1986	State Health letter to 5-M, Inc. requesting written proof and documentation of company's receipt of State Health approval for the process containment ponds. Also indicates a joint state agency inspection scheduled for November 21, 1986.
November 28, 1986	DOGM memo to file based upon November 21, 1986 joint agency site inspection of Silver Reef Mine. Water samples were collected by State Health and pH measures taken of the process ponds. Water Resources representatives verified drainages in and around mine site to note if they drained to the Quail Creek Reservoir. Abandoned Mine Reclamation personnel confirmed shafts and adits noted on USGS map within proposed mine development area.
December 12, 1986	File Memo (Pam Grubaugh-Littig) regarding telephone inquiry by Kerley Industries attorney about Silver Reef status. No change in status of the mine and will probably go before Board sometime. Mentioned statement made by Jerry Glazier on November 21, 1986 that the agreement with Kerley had ended a couple of days earlier.
December 29, 1986	Staff memo to Program Administrator, follow-up to DOGM September 18th letter to Kerley Industries which required mine site reclamation within 60-days. Apparent confusion as to ultimate reclamation responsibility, 5-M or Kerley Industries. Clarification requested. Brief chronology attached to memo.
February 5, 1987	DOGM letter to Kerley Industries requesting completion and return of enclosed 1986 annual report by April 30, 1987.
February 10, 1987	Staff memo to file regarding phone conversation with Arizona bank holding Certificate of Deposit for Kerley Industries. \$10,228 in interest had accrued on the \$55,210 bond and it was paid to Kerley Industries on February 3rd.
February 27, 1987	Letter from State Health sent to 5-M Inc., again requesting design plans for the waste water ponds constructed on the Silver Reef mine site.

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March 19, 1987	Staff memo to file, discussing best estimate to reclaim the approximate 12 disturbed acres associated with the processing area at the Silver Reef Mine site.
April 8, 1987	Memorandum to DOGM Director from Assistant Attorney General detailing bond forfeiture procedures of Kerley Industries reclamation bond.
July 13, 1987	Memo from Administration to Minerals Team regarding assignment of tasks requisite to initiate reclamation of the Silver Reef Mine.
July 17, 1987	Staff memo to Program Administrator discusses results of investigations made by DOGM technical staff in response to Administrator's July 18, 1987 memo regarding pre-reclamation resolution to outstanding concerns.
July 21, 1987	Memorandum to DOGM Director from Assistant Attorney General enclosing a cashier's check for \$55,210 from Kerley Industries for reclamation of the Silver Reef Mine. Recommendation made to proceed with an Order to Show Cause or a petition against 5-M, Inc.
September 3, 1987	State Health response letter to 5-M, Inc. details deficiencies outlined in plans submitted for their review. Request made for additional detailed design information of as-built mining operation and processing facilities.
March 10, 1988	Follow-up to a February 17, 1988 onsite meeting with the operator. Certified DOGM letter to 5-M, Inc. details requirements that must be met in order to maintain the Silver Reef Mine site in the current state of suspended operations.
March 25, 1988	5-M, Inc. response to DOGM's March 10, 1988 letter. Included a reclamation plan for the mine site involving the current onsite facilities and mine development. A petition to the Board of Oil, Gas and Mining was also received (improperly formatted) requesting that the forfeited Kerley Industries bond be used to defer some of 5-M, Inc. reclamation bonding obligation.
April 4, 1988	Staff memo to file, details results of a March 31, 1988 field inspection with 5-M, Inc. representatives. Operator had initiated cleanup of the mine site and presented DOGM staff with copies of the March 5, 1988 reclamation package (as noted above). The operator committed to forward, within 2 weeks, Addendum D, which would cover ultimate <u>final</u> reclamation of the mine site.
April 7, 1988	DOGM letter to 5-M, Inc. sent as follow-up to discussions and commitments made by operator during the March 31, 1988, onsite inspection. Indicated petition to Board must also be reformatted.
April 27, 1988	DOGM receives, Addendum D, Final Reclamation Plan supplement, from 5-M, Inc.
May 10, 1988	DOGM memo to file, details follow-up to May 6, 1988 onsite inspection. Cleanup work not completed yet, but progress is being made.

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Silver Reef Site
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August 11, 1988	DOGM forwards <u>Conditional</u> Tentative Approval letter to 5-M, Inc. as a result of technical review of operator's recent final reclamation plan.
September 26, 1988	Memo to file as a follow-up to September 15, 1988 onsite inspection with operator. Memo detailed cleanup performed to date, discussion of DOGM Conditional Tentative Approval letter and Board's decision concerning 5-M's latest petition on Kerley Industries forfeited bond. DOGM to compute a detailed reclamation estimate for the current status of mining operations and forward same to operator.
December 1, 1988	Staff memo to file details results of field inspection to help finalize details for computing reclamation cost estimate.
December 27, 1988	Staff memo regarding reclamation cost estimate. Describes facilities with/without acceptable post-mining use and assumptions used in making the estimate. Total estimate is \$102,000 in 1993 dollars.
January 23, 1989	DOGM forwards certified letter to 5-M, Inc. requesting written response to previous Conditional Tentative Approval letter. Request written response by February 15, 1989. Detailed DOGM reclamation estimate attached to letter (\$102,000) for current mining disturbances. Operator requested to provide additional \$46,790 reclamation surety in the interim (pending outcome of legal proceedings regarding acquisition of forfeited Kerley Industries reclamation bond).
February 3, 1989	DOGM Letter to 5-M requesting completion and return of 1988 Annual Report before 4/7/89.
February 13, 1989	5-M letter to DOGM regarding review of Reclamation Plan and DOGM letter 1/23/89, 8/11/88, 12/27/88. 5-M accepts terms and conditions of the letters with these exceptions: 1) surety can be reduced if transformers contain no PCBs, 2) minimum reclamation suspension period of 10 years with 6 years remaining through 1994 is minimum time allowed, 3) 5-M agrees to furnish borrow sites as needed for reclamation 4) 5-M agrees to disposal of toxic/hazardous material at an approved site as long as there is 5-M concurrence, 5) documentation of diligent legal pursuit forwarded under separate cover.
March 1, 1989	Registered letter to 5-M regarding notice of tentative approval, final reclamation plan. Agrees and clarifies exceptions mentioned by 5-M. Surety of \$46,790 must be posted by 5/1/89 before final approval can be issued.
March 7, 1989	Letter to DOGM from 5-M attorney with copy of complaint filed in courts enclosed as proof of diligent pursuit.
March 15, 1989	DOGM letter to Washington County Commission notifying them of tentative approval.

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March 16, 1989	Mailing list for Notice of Tentative Approval notification (4 parties).
April 7, 1989	DOGM received copy of 3/7/89 BLM letter to Color Country Development Corp. regarding rights of way and water rights issues. Includes copy of application and previous correspondence.
March 14, 1989	DOGM letter to LaVarr Webb regarding request for water quality monitoring of well near/within the Silver Reef site. He was told DOGM does not regulate unless related to a mining operation.
April 7, 1989	Letter from LaVarr Webb regarding explanation of the dispute with 5-M over the water rights issues.
June 6, 1989	Registered letter to 5-M regarding follow-up of conditions of tentative approval. 5-M failed to post the reclamation surety by 5/1/89. No adverse comments received during public comment period. Failure to post surety within 30 days of this letter will result in issuance of an Order to Show Cause. Tentative approval may be revoked and immediate reclamation required.
June 21, 1989	Letter from 5-M requesting an extension of time period for posting of surety due to extenuating circumstances.
June 30, 1989	Registered letter to 5-M granting a time extension of 45 days from this letter (8/15/89) to provide surety. No further extensions will be granted. Failure to post surety will result in issuance of an Order to Show Cause, revocation of tentative approval, and immediate reclamation required.
August 8, 1989	File memo by Wayne Hedberg regarding phone conversation with 5-M on this date. 5-M obtained outside funding but the agreement has a 9/10/89 deadline for providing the funds. 5-M was told to draft a letter to DOGM explaining reasons for delay in posting surety. 5-M felt they would acquire the Kerley bond via litigation soon.
August 9, 1989	Letter from 5-M requesting extension until 9/15/89 to post surety.
August 24, 1989	Registered letter to 5-M granting an extension until 10/15/89 to resolve Kerley bond issue (\$55,210) and to provide DOGM with the required reclamation surety (\$102,000 total in 1993 dollars). No further extensions will be granted. Failure to meet this deadline will result in revocation of tentative approval and commencement of reclamation using the forfeited Kerley bond. Any addition expenses incurred by DOGM may be obtained from 5-M via legal channels. The Form MR-RC attached is to be completed and returned by 5-M.
January 5, 1990	DOGM letter to 5-M requesting completion and submission of the attached annual report form for 1989.
March 3, 1990	Annual report for 1989 received. Reclamation work listed as performed during 1989 includes: "Clean up of debris and storage of equipment including

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maintenance. Fence repair and maintenance. Removal of scrap metal and materials."

April 30, 1990

File memo by Tony Gallegos regarding site inspection of 4/12/90. Describes current status of the mine site and lists public health and safety hazards as highest reclamation priority.

October 9, 1990

Certified letter to 5-M notifying that DOGM is hereby withdrawing tentative approval of their reclamation plan due to failure to post required \$46,790 reclamation surety amount. DOGM will now use forfeited Kerley Industries' bond to schedule reclamation of the minesite. The Division may seek additional reclamation funding from 5-M. Formal appeal provision of mining statute quoted.

November 28, 1990

Division Memorandum to Assistant Attorney General. Executive summary and associated supporting background information and permitting history included. Recommend Division or Board issue a Notice of Agency Action to 5-M requiring them to appear before the Board of Oil, Gas & Mining.

December 10, 1990

Request for Agency Action Notice prepared and signed by Division Director. Division petitions the Board of Oil, Gas and Mining for an Order requiring that 5M cease all operations on the Silver Reef mine site and also authorize the Division to enter upon and perform the necessary reclamation on the site. Request that a formal hearing be established for January 31, 1991 to hear the matter.

December 24, 1990

Formal Notice of Public Hearing (for January 24, 1991) directed to newspaper agencies. Notice states Division seeking an Order from Board allowing DOGM to utilize forfeited Kerley Industries bond for reclamation of the hazards associated with the 5-M Silver Reef mine site.

December 27, 1990

Request for 1990 Annual Report completion sent to Jerry Glazier, 5-M Inc.

January 10, 1991

Certificate of Mailing signed by Division indicating that the Request for Agency Action was mailed to Jerry Glazier of 5M Inc. by certified mail.

January 16, 1991

Memo documenting phone conversation with Utah Division of Wildlife in Cedar City. Their agency would like information regarding the 5-M site and the January 24, 1991 Board Hearing. (Info mailed out.)

January 23, 1991

DOGM receives January 22, 1991 letter from 5M Inc. informing Board that 5M representatives unable to attend the January 24 hearing "due to economic and other considerations". Express their continued commitment/interest to ultimately reinstate mining and reclamation activities within the Silver Reef area, once financial backing is secured and economic conditions are more favorable. Reference and concern is made regarding "misplaced or lost" Division approvals for 5M's original 30-yr. mine plan (late 1970's), which DOGM has indicated they could find no record of. Also acknowledged that State is evaluating whether the Silver Reef Mine should be considered for Superfund listing due to past mining of local uranium deposits.

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January 24, 1991	Formal hearing before the Board of Oil, Gas and Mining. Division staff, Director and legal counsel present testimony and chronological documentation to support request for Board Orders against 5M Inc. on the Silver Reef minesite. Board grants request and directs that the Orders be prepared.
March 11, 1991	Division receives 1990 annual report form 5-M. Site still listed as inactive.
March 20, 1991	Cursory site inspection performed by Division staff. No field memo is written. Site was basically unchanged, although processing area shows more signs of vandalism. Recent access by the public is evidenced by tire tracks since the recent rain. Two men were observed driving onsite at the time of the inspection and stated they were metal detecting.
April 5, 1991	Actual Board Orders formally signed by Board Chairman, James W. Carter.
April 17, 1991	Copy of Final Board Orders sent to Jerry Glazier, 5M Inc. by certified mail.
April 24, 1991	Memo to Board regarding the status of the preparation and implementation of the site specific reclamation plan for the Silver Reef site. Division is waiting for the Analytical Report from the Department of Health. Report will discuss the results and conclusions of the sampling and testing performed during the fall of 1990 by the State Health Department.
April 24, 1991	Division received copy of Field Activities Report for the Leeds Silver Reclamation Site from State Health, Bureau of Environmental Response and Remediation. Draft copies of analysis sheets attached.
August 30, 1991	Memo documenting August 27th site inspection conducted by DOGM to further evaluate onsite conditions and hazards in order to better define the scope and detail of the Division's reclamation/remediation proposal for the site. Another local resident was noticed driving through the mine site area during inspection.
October 10, 1991	Memo and supporting documentation sent to Jason Knowlton (UDERR) in response to his request for information regarding our knowledge of public use and general access to the Silver Reef mine site area.
November 8, 1991	Division receives copy of November 7, 1991 letter from the Utah Division of Environmental Response and Remediation (UDERR) to EPA transmitting a copy of their <i>Analytical Results Report</i> for the <i>Leeds Silver Reclamation Site</i> (dated 10/30/91), and some information from DOGM regarding the site, wastes on-site, and DOGM's involvement with the site. Letter indicates UDERR has contacted EPA's Emergency Response Branch concerning possible removal activities. EPA has indicated they will review information and make a determination.
November 8, 1991	Division receives copy of <i>Analytical Results Report</i> for the <i>Leeds Silver Reclamation Site</i> from the Utah DERR.
February 5, 1992	Memo to file documenting February 4, 1992 joint agency onsite inspection of 5M mine site. Purpose of inspection was to assist EPA Emergency Response Branch

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officials in their preliminary site assessment/evaluation of the site. A Utah DERR representative also attended the inspection. The state representatives assisted the EPA with an overview of the affected areas associated with the 5M mine site.

March 11, 1992

Memo to file documenting a telephone conversation with EPA and Division. Discussion involved status of EPA's decision on whether there are significant environmental and/or public health and safety-related concerns at the 5M Silver Reef site, that would warrant further EPA analytical sampling and study. Toxicologist report not finalized yet, may be a potential "wetlands" concern as well. Discussed conceptual treatment methods for neutralization of the acid and metals in the heap, solution ponds and electrowinning vat contents.

March 20, 1992

Division receives copy of 5M Inc.'s 1991 Annual Report (no mining activity, no reclamation conducted).

April 20, 1992

Division receives a copy of EPA's April 16, 1992 letter to Utah DERR transmitting a copy of EPA's toxicologist's report/evaluation of UDERR's Analytical Results Report on the 5M Silver Reef site. Letter indicates that EPA has scheduled a May 5, 1992 site visit with an EPA ecologist to evaluate the site.

July 00, 1992

EPA forwards a copy of the *Final Report, Field Reconnaissance and Wetland Assessment of the Leeds Silver Site, Leeds, Utah, July 1992*.

September 30, 1992

Memo to file documenting September 24, 1992, BLM/DOGM onsite inspection of 5M mine site. Purpose of inspection was to collect detailed information regarding the features of the mine site in order to develop reclamation specifications.

October 23, 1992

Memo to file documenting a telephone conversation between Division and UDERR regarding interpretation of the analytical results in their Analytical Results Report dated 10/30/91. UDERR advised Division that they had been contacted by David Moore, Hidden Valley Water Users Association (HVVUA), regarding closure of a water well down gradient from the 5M site, and are blaming the mining operation for the ground water contamination problem.

October 30, 1992

Division receives October 29, 1992 letter from David Moore - HVVUA, outlining their concerns over the possible EPA cleanup of the site and the close proximity of their contaminated (gross alpha radiation) well and irrigation ditch to the mine site. Interested in participating in future scheduled EPA onsite evaluations/surveys of the site. Also references a October 29th telephone conversation with Division staff regarding possible overflow of ponds, oil spilled from transformers and possible downgradient impacts to their irrigation canal water and well. Letter had laboratory analyses attached of water samples taken from local down gradient water well.

November 10, 1992

Division response letter to Mr. Moore's October 29th letter.

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- November 25, 1992 Division receives telefaxed copy of Utah Division of Drinking Water's November 23, 1992 letter to David Moore regarding their evaluation and interpretation of the analytical results from the contaminated water well samples.
- November 25, 1992 Division receives copy of UDERR, November 24 1992, response letter to David Moore's October 29, 1992 letter. Letter informs him of the status of ongoing and historic investigations at the Leed Silver Reclamation Site. Letter explains background and results of UDERR site investigations and how and why EPA became involved with the site. Informs Mr. Moore of EPA planned December 2, 1992 site inspection/survey and their plans to resample impacted well.
- November 30, 1992 Division receives November 23, 1992 letter from Mr. Moore in response to our previous November 10th reply to him. Again expresses concern over the irrigation ditch and need to protect surface water within during any proposed cleanup activities (especially if they use it as an eventual source of replacement water for the contaminated well). Referred us to State Engineers Office in Cedar City for a copy of well driller's log from their contaminated well.
- February 8, 1993 Memo documenting February 4, 1993 joint agency (EPA, Bureau of Reclamation, BLM, DOGM) onsite inspection of 5M site. Purpose was to discuss recommended procedures to secure, stabilize and reclaim the site. Memo documents onsite conditions, actions conducted and discussions made during the inspection.
- April 6, 1993 Division receives copy of February 25, 1993 memo documenting a February 10th site investigation conducted by Bruce Waddell and Carol Wiens of the USFWS. Memo documents their examination/observations of the site and their findings/concerns.
- April 22, 1993 Division receives copy of April 8, 1993 BLM letter to 5M, Inc. notifying operator of several instances of noncompliance with Federal mining regulations existing on the site. Letter seeks information from 5M regarding disturbances caused by their operations at the site. Directs operator to begin any necessary environmental and/or engineering studies so that they can participate in the reclamation and rehabilitation planning process for the site. Design a reclamation plan addressing all underground mine workings associated with the operation. Directed to remove all equipment and mine improvements from Federal land. Given until May 17, 1993 to respond with a timetable.
- May 21, 1993 Division receives copy of May 17, 1993 response letter from 5M to the BLM's April 8th written request for information. Operator indicates they are acquiring patented mineral lands surrounding the area described in BLM letter. All of the underground workings predate Utah's Mined Land Reclamation Program. 5M has been continually (up until last 6 months) fencing, covering and posting same. Vandalism constant problem. General cleanup, removal of equipment, and reclamation has been conducted in the last 1 1/2 years (and is still ongoing). Wetlands below the minesite are not natural, are man-caused by irrigation ditch traversing the property. Unpatented land disturbances include portions of roads, parts of a power line, and portions of the leach pad and mill facilities. Operator

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has initiated mineral patent process for the landlocked piece of federal land where facilities are located. Operator although site is severely vandalized, they have not abandoned property. Have been expending energies in development of technology and a plan to develop the mineral resources. Hope to work with BLM in near future to develop a plan to use remaining equipment and facilities left on the site.

June 25, 1993

EPA forwards a copy of the *Final Report, Field Investigation, Leeds Silver Site, Leeds, Utah, July 1993* (2 volume set).

August 12, 1993

Memo to file documenting joint agency meeting at Utah DEQ offices on August 11, 1993. Purpose of the meeting was held to discuss status of the ongoing EPA site investigation of the 5M Silver Reef site. Discussion of each regulatory agencies respective responsibilities and coordination roles also transpired. Participants included: EPA, BLM, UDEQ (DERR, DDW), Bureau of Reclamation, USFWS & DOGM (Minerals & AMR Programs). Bureau of Reclamation gave an overview of their activities and onsite assessments to date. All participants were given a copy of their proposed "Work Plan" and a draft Heap Leach and Processing Ponds Alternatives outline for the site. Comments were requested from the interested parties.

September 16, 1993

5M Inc. permit/file chronology (through October 1990) telefaxed to Joe Mikitish (Kerley Minerals) via telephone request.

November 8, 1993

Division receives November 3, 1993 letter from John C. Willie, Washington County Commission. Letter requests Division assistance in addressing local Silver Valley Estates residents concerns over the dangerous open mining shafts and portals within and immediately surrounding the 5M Inc. mine properties.

November 19, 1993

Division response letter sent to Washington County Commission outlining what the status of the Division's and EPA's actions have been to date regarding the 5M processing facilities area and intentions for reclamation of the surrounding abandoned shafts and portals.

December 20, 1993

Division receives Memorandum from Pete Stevenson, EPA notifying interested parties that Bureau of Reclamation will be conducting field work for the Value Engineering, Consolidation, and Dewatering Work Plan for the Leeds Silver Site during week of January 10, 1994. EPA anticipate 5M Inc. representatives to be onsite to discuss their concerns and position, and believe it would be beneficial if State officials were present as well.

January 27, 1994

Memo to file documenting January 11, 1994 joint agency onsite inspection of 5m site. Agencies represented included: Utah DERR, EPA, Bureau of Reclamation, BLM and DOGM. 5M representatives were invited but did not attend the inspection. Purpose of the inspection was to discuss the status of the ongoing EPA/Bureau of Reclamation site assessment/evaluation of the site. 5M had apparently indicated to the Bureau of Reclamation that they wished to be involved with the reclamation of the site.

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May 2, 1994	Division receives a copy of an April 26, 1994 Noncompliance letter from the BLM to 5M, Inc. BLM advises 5M to provide a Notice or Plan of Operations in a timely manner to avoid establishing a record of noncompliance. Appeal provisions outlined as well.
June 27, 1994	Division receives May 3, 1994 letter from EPA transmitting a copy of Bureau of Reclamation's initial <i>Investigation Report</i> and <i>Remediation Preferred Plan Report</i> - Leeds Silver Reclamation Site - Interagency Agreement No. DW 14953548. EPA subsequently rejected this initial report as too costly and asked Bureau to re-evaluate same and revise plan accordingly.
October 7, 1994	Division receives October 4, 1994 transmittal letter and an enclosed Bureau of Reclamation report entitled, "Preferred Plan Remediation Report" for the Leeds Silver Reclamation Site. Review comments solicited by October 17, 1994. Letter indicates EPA is pursuing a Fund-lead Removal Action. Anticipates next documents to be prepared and sent for our review will be the draft designs for actual work. Anticipated costs will likely exceed the preliminary \$478,794 estimate listed in the report. Would like to utilize forfeited funds that Division is using if possible to defray some of the costs.
October 25, 1994	Division sends copy of its review comments to State BLM office for inclusion into a joint agency response to EPA regarding the October 4th remediation plans.
November 8, 1994	Division receives copy of BLM's November 4, 1994 joint agency review/response letter to EPA regarding the Bureau of Reclamation's October 4th remediation report.
January 19, 1995	Division receives copy of latest revised design drawings from the Bureau of Reclamation outlining the proposed plans for remediation/capping of the heap leach pad and processing ponds area.
January 20, 1995	Division receives copy of EPA/Bureau of Reclamation January 18, 1995 written response to BLM/DOGM November 4, 1994 review comments of the "Preferred Plan Remediation Report".
January 24, 1995	Joint Agency onsite inspection and meeting conducted at 5M Silver Reef site (and Leeds Town Hall) to discuss and provide comment on EPA/Bureau of Reclamation's latest design drawings and their January 18th response letter.
February 3, 1995	Newspaper article from Salt Lake Tribune copied to file. Article entitled, " <i>Groups Oppose Cleanup of S. Utah Tailings</i> ", describes local objections to proposed EPA cleanup actions for the 5M, Inc. Silver Reef minesite.